REMARKS/ARGUMENTS

Claims 22-24, 26 and 30 are pending. By this Amendment, claim 26 is amended. Support for the amendments to claim 26 can be found, for example, in original claim 26. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Allowable Subject Matter

Applicants thank the Examiner for the indication in the Office Action that claims 23, 24, 26 and 30 recite allowable subject matter.

Rejection Under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claim 26 as indefinite under 35 U.S.C. §112, second paragraph. By this Amendment, claim 26 is amended to obviate the rejection. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §103

The Office Action rejects claim 22 under 35 U.S.C. §103(a) over U.S. Patent Application Publication No. US 2003/0171867 to Nakamori et al. ("Nakamori") in view of U.S. Patent No. 6,510,370 to Suzuki et al. ("Suzuki"). Applicants respectfully traverse the rejection.

Claim 22 recites "[a] control system for a hybrid vehicle, in which a second prime mover is connected to an output member to which a power is transmitted from a first prime mover through a transmission in which a torque capacity is varied in accordance with an oil pressure, and which has a first hydraulic pump driven by the first prime mover for establishing an oil pressure to be fed to the transmission, and a second hydraulic pump

arranged in parallel with the first hydraulic pump and driven by an electric motor, comprising: a torque limiting means for limiting an output torque of the second prime mover temporarily, at a starting time of the first prime mover" (emphasis added). Nakamori and Suzuki do not disclose or suggest such a control system.

As indicated above, claim 22 requires a torque limiting means for limiting an output torque of a second prime mover temporarily at a starting time of a first prime mover. The Office Action concedes that Nakamori does not disclose such a torque limiting means. *See* Office Action, page 3. However, the Office Action asserts that Suzuki discloses such a torque limiting means and that it would have been obvious to incorporate such a torque limiting means into the control system of Nakamori. *See* Office Action, page 3. Applicants respectfully disagree.

When the control system of claim 22 is employed in a hybrid vehicle, power from the first prime mover is transmitted to the output member, and power from the second prime mover is transmitted to the output member through the transmission. In the system of claim 22, the first hydraulic pump is driven by the first prime mover. Accordingly, when the first prime mover is stopped, the second hydraulic pump is relied upon to drive the motor to ensure the torque capacity of the transmission by feeding oil pressure to the transmission. When the first prime mover is restarted, a reaction force is applied to the output member. To prevent the torque of the output member from dropping when the first prime mover is restarted, the output torque of the second prime mover is increased.

However, the torque capacity of the transmission transmitting the output torque of the second prime mover is governed by the oil pressure of the second hydraulic pump. Accordingly, when the output torque of the second prime mover is increased as the first prime mover is restarted, the oil pressure being fed to the transmission may become insufficient. To prevent this from occurring, the system of claim 22 limits the output of the

second prime mover temporarily when the first prime mover is restarted. As a result, it is unnecessary to increase the oil pressure to be supplied to the transmission. Thus, the oil pressure fed to the transmission does not become insufficient, and it is unnecessary to, e.g., increase the size of the second hydraulic pump.

Each of Nakamori and Suzuki discloses a hybrid drive unit. However, in each of Nakamori and Suzuki, a motor generator is connected directly to the output shaft of the engine in the hybrid drive unit. *See, e.g.,* Nakamori, FIG. 2; Suzuki, FIG. 1. The motor generators of Nakamori and Suzuki are not adapted to increase output torque when the engine is started – that is, during the starting of the engines in Nakamori and Suzuki, the output torque respective motor generators will not be increased to minimize the change in torque of the output member caused by engine start. Thus, as the systems of Nakamori and Suzuki do not recognize the problem that is solved by the system of claim 22 (insufficient oil pressure to the transmission when output torque of the second prime mover is increased during restart of the first prime mover), a skilled artisan would not have been led to the particular, unique solution that is embodied in the system of claim 22. *See Eibel Process Co. v. Minn. & Ont. Paper Co.*, 261 U.S. 45, 66 (1923) (stating that discovery of problem can support patentability).

As indicated above, the Office Action concedes that Nakamori does not disclose the torque limiting means of claim 22. *See* Office Action, page 3. However, the Office Action asserts that Suzuki discloses a process including a step S2, in which a motor generator control unit 62 limits the torque output of a motor generator 3 when an engine 2 is started. *See* Office Action, page 3; Suzuki, FIG. 4. However, in step S1 of the process of Suzuki, a determination is made as to whether the engine 2 is running in an ordinary state. *See* Suzuki, column 5, lines 9 to 11. If the engine 2 is already running, the process of Suzuki advances to step S2 in which the torque output of the motor generator 3 is set to 0 Nm. *See* Suzuki,

column 5, lines 11 to 15. Nowhere in the process of Suzuki is the torque output of a second prime mover controlled at a starting time of a first prime mover, as recited in claim 22. Rather, in the process of Suzuki, the torque output of a second prime mover is controlled only if a first prime mover is already running.

As indicated above, although Suzuki discloses setting the torque of the motor generator 3 to "0" (*see, e.g.,* FIG. 4, step S2), this control is carried out when the engine is running, not when the engine is being started. Rather, according to Suzuki, the torque of the motor generator 3 is raised to its maximum value when the engine is started (*see, e.g.,* FIG. 4, step S12). Thus, Suzuki discloses maximizing torque when the engine is being started and claim 22 is directed to a system in which torque is limited when the engine is being started – the technical concepts underpinning the systems of Suzuki and claim 22 are opposites.

In the hybrid drive unit taught by Suzuki, the motor generator 3 is connected directly to the output shaft of the engine 2. Accordingly, the motor generator 3 does not need to be driven when the engine 2 is being driven, so the motor generator 3 can be stopped to reduce consumption of the power. *See* Suzuki, column 5, lines 8 to 11. By contrast, the system of claim 22 operates to temporarily limit the output of the second prime mover to minimize the change in the torque of the output member that results from restarting the engine.

Accordingly, the timing and reasons for limiting torque in Suzuki and in the system of claim 22 are entirely different. One of ordinary skill in the art would not have been led to the torque limiting means of claim 22 by the teachings of Suzuki.

As neither Nakamori nor Suzuki discloses a torque limiting means that limits an output torque of a second prime mover temporarily at a starting time of a first prime mover, the combination of reference fails to disclose or suggest each and every feature of claim 1.

As explained, claim 22 would not have been rendered obvious by Nakamori and Suzuki. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

For the foregoing reasons, Applicants submit that claims 22-24, 26 and 30 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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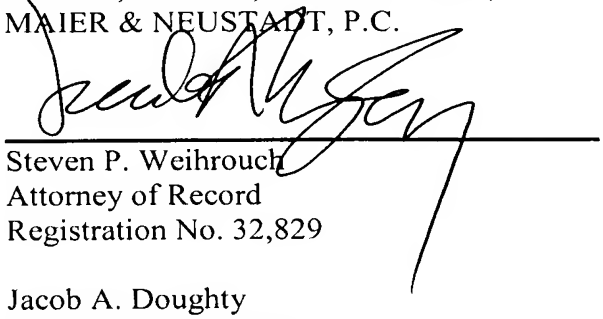

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